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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte THOMAS SATZINGER and HORST WESTENFELDER

Appeal 2016-000470
Application 13/504,637
Technology Center 1600

Before JEFFREY N. FREDMAN, SHERIDAN K. SNEDDEN, and TAWEN CHANG, *Administrative Patent Judges*.

FREDMAN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal[1] under 35 U.S.C. § 134 involving a topical composition comprising an organic titanium dioxide dispersion. The Examiner rejected the claims as obvious. We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

Statement of the Case

Background

"There is a constantly increasing need for sunscreens comprising constantly increasing amounts of UV-filter substances in order to provide effective protection against UV-radiation. Such sunscreens should exhibit a high SPF while exhibiting a sufficient water resistance and an appealing skin

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[1] Appellants identify the Real Party in Interest as DSM IP Assets, BV (*see* App. Br. 2).

feel" (Spec. 1:14–17). The Specification teaches "compositions comprising an organic titanium dioxide dispersion said dispersion consisting of double coated micronized titanium dioxide particles having one inner inorganic silica coating and one outer silicone coating dispersed in a mixture of $C_{12–15}$ alkyl benzoate . . . exhibit improved sun protection factors (SPF) and improved water-resistance" (Spec. 1:31–2:5).

The Claims

Claims 1–11, 13, and 14 are on appeal. Claim 1 is representative and reads as follows:

> 1. A topical composition comprising an organic titanium dioxide dispersion in a cosmetically acceptable carrier, wherein the dispersion consists of micronized double coated titanium dioxide particles having an inner inorganic silica coating and an outer silicone coating, $C_{12–15}$ alkyl benzoate and polyglyceryl-2 dipolyhydroxystearate.

The Issue

The Examiner rejected claims 1–11, 13, and 14 under 35 U.S.C. § 103(a) as obvious over Pfluecker I,[2] New Materials,[3] and Pfluecker II[4] (Final Act. 3–5).

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[2] Pfluecker et al., WO 2006/087066 A1, published Aug. 24, 2006 ("Pfluecker I") (We rely upon the Examiner's machine translation numbered pages 1 to 43).

[3] New Materials International, New DSM Nutritional Products enriches the PARSOL range with PARSOLTX, http://www.newmaterials.com/News_Detail_New_dsm_nutritional_products_enriches_the_parsol_range_with_parsoltx_4546.asp#axzz4U4Y69m78 (May 2006) (Accessed May 7, 2014) ("New Materials").

[4] Pfluecker et al., US 2006/0194057 A1, published Aug. 31, 2006 ("Pfluecker II").

The Examiner finds Pfluecker I teaches "dispersion of nanoparticulate UV protection agents such as silicon dioxide-coated titanium dioxide in oil phase comprising polyglyceryl-2 dipolyhydroxystearate" (Final Act. 3). The Examiner acknowledges that "Pfluecker I fails to teach the double-coated titanium dioxide and C12-15 alkyl benzonate" (Final Act. 4).

The Examiner finds New Material teaches "Parsol TX, which is microfine titanium dioxide coated with silicone and silicon dioxide" and that Parsol TX "provides high SPF and excellent transparency profile and stability when formulated" (Final Act. 4). The Examiner finds Pfluecker II teaches "silicon dioxide-coated nanoparticulate titanium dioxide which is suitable for UV protectant cosmetic emulsions or dispersions" and "that the oil phase comprising C12-15 alkyl benzoate is advantageous in formulating dispersions" (Final Act. 4).

The Examiner finds it obvious

> to modify the teachings of Pfluecker I by substituting the esters of saturated and/or unsaturated, branched and/or unbranched alkanecarboxylic acids with C12-C15 alkyl benzoate as motivated by Pfluecker II to make a stable dispersion, since 1) both references teach dispersions comprising nanoparticulate titanium dioxide coated with silicon dioxide; and 2) the latter suggests that the oil used in Pfluecker I and C12-C15 alkyl benzoate are art-recognized functional equivalent suitable for substitution. Further modifying the invention by using Parsol TX would have been also obvious, as New Material International teaches that such microfine titanium dioxide can be used with methoxydibenzoylmethane without deactivation or discoloration and provide high SPF and excellent transparency profile and stability when formulated into a composition.

(Final Act. 5).

The issue with respect to this rejection is: Does the evidence of record support the Examiner's conclusion that Pfluecker I, New Materials, and Pfluecker II render claim 1 obvious?

Findings of Fact

1. Pfluecker I teaches the "present invention relates to oily dispersions of nanoparticulate UV protection agent, their preparation and use . . . (compositions, simply referred to as sunscreens), as well as their use in the abovementioned cosmetic application" (Pfluecker I 1).

2. Pfluecker I teaches that for nanoparticulates, "[p]reference is given to using a titanium dioxide having a silicon dioxide" (Pfluecker I 2).

3. Pfluecker I teaches "[v]ery particularly preferred according to the invention here is the use of Polyglyceryl-12 dipolyhydroxystearate" (Pfluecker I 2).

4. New Materials teaches "PARSOL TX is a new grade of microfme Titanium Dioxide, that eliminates once and for all, the compatibility issue with PARSOL 1789 (Butyl Methoxydibenzoylmethane, Avobenzone) without any side effects, like deactivation or discoloration" (New Materials 2). The Examiner finds, and Appellants have not disputed, that Parsol TX is "microfine titanium dioxide coated with silicone and silicon dioxide" (Final Act. 4.)

5. New Materials teaches "PARSOL TX also significantly contributes to in vivo SPF, and offers an excellent transparency profile when formulated. It also has superior stability due to a very complete surface treatment. PARSOL TX offers a very high degree of formulation flexibility,

is compatible with almost all cosmetic ingredients and, of course, complements the entire PARSOL range" (New Materials 2).

6. Pfluecker II teaches "nanoparticulate UV protectants, to the preparation and use thereof. The present invention furthermore relates to novel compositions for topical application which are intended, in particular, for light protection of the skin and/or the hair against UV radiation" (Pfluecker II ¶ 1).

7. Pfluecker II teaches "nanoparticulate metal oxides used here for the use according to the invention are, in particular, titanium dioxide . . . where titanium dioxide is particularly preferred in accordance with the invention as metal oxide" (Pfluecker II ¶ 19).

8. Pfluecker II teaches the use of "[a]ny desired mixtures of oil and wax components of this type . . . Particularly advantageous are mixtures of $C_{12–15}$-alkyl benzoate and 2-ethylhexyl isostearate, mixtures of $C_{12–15}$-alkyl benzoate and isotridecyl isononanoate, as well as mixtures of $C_{12–15}$-alkyl benzoate, 2-ethylhexyl isostearate and isotridecyl isononanoate" (Pfluecker II ¶¶ 230, 232).

Principles of Law

"The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398,416 (2007).

Analysis

We adopt the Examiner's findings of fact and reasoning regarding the scope and content of the prior art (Final Act. 3–5; FF 1–8) and agree that the

claims are rendered obvious by Pfluecker I, New Materials, and Pfluecker II. We address Appellants' arguments below.

Appellants contend that "Pfluecker I discloses pre-dispersions of specific silicon dioxide coated titanium dioxide particles" but that "Pfluecker I is completely silent with regard to water resistance of the double coated titanium dioxide particles generally" (App. Br. 5). Appellants contend that "Pfluecker II discloses coated nanoparticulate UV protectants . . . in the form of simple or complex emulsions" but that "Pfluecker II however, does not disclose the use of *pre-dispersed* titanium dioxide" (App. Br. 5).

We do not find these arguments persuasive. "Non-obviousness cannot be established by attacking references individually where the rejection is based upon the teachings of a combination of references." *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986). A reference "must be read, not in isolation, but for what it fairly teaches in combination with the prior art as a whole." *Id.* Here, New Materials teaches a double coated titanium dioxide (FF 4) while Pfluecker I teaches titanium dioxide dispersions (FF 1, FF 2). Moreover, the claims do not require water resistance, and we agree with the Examiner that "there is nothing in the record to indicate any unexpected water-resistance in using the double coated titanium dioxide in a sunscreen" (Ans. 2).

Appellants contend:

> [T]here is no disclosure in Pfluecker I and/or Pfluecker II that would have led an ordinarily skilled person in the art to select the *specific* titanium dioxide, i.e., one having an inner silica coating and an outer silicone coating as promoted in the New Material International as PARSOL TX and to formulate it into a *pre-dispersion consisting of both* C_{12-15} alkyl benzoate *and*

> polyglyceryl-2 dipolyhydroxystearate before incorporation into a topical composition. There certainly would be no guidance provided by Pfluecker I and/or Pfluecker II that would have led an ordinarily skilled person to have a reasonable expectation of success to improve water resistance of either titanium dioxide particles generally, or the *specific* double coated titanium dioxide particles when introduced into a carrier as a dispersion *consisting of* the specific double coated titanium dioxide particles, C_{12-15} alkyl benzoate *and* polyglyceryl-2 dipolyhydroxystearate as recited in the pending claims herein.

(App. Br. 6).

We are not persuaded. Simply because Pfluecker I and Pfluecker II "discloses a multitude of effective combinations does not render any particular formulation less obvious." *Merck & Co. v. Biocraft Labs., Inc.*, 874 F.2d 804, 807 (Fed. Cir. 1989). *Corkill* is particularly relevant, where an obviousness rejection was affirmed in light of prior art teaching that "hydrated zeolites will work" in detergent formulations, even though "the inventors selected the zeolites of the claims from among 'thousands' of compounds." *In re Corkill*, 771 F.2d 1496, 1500 (Fed. Cir. 1985).

Here, Pfluecker I teaches sunscreen cosmetics with dispersions of nanoparticulate agents (FF 1) including titanium dioxide with a silicon dioxide coating (FF 2) and polyglyceryl dipolyhydroxy stearate (FF 3). The Examiner looks to New Materials (*see* Ans. 2) because New Materials teaches that the double coated PARSOL TX titanium dioxide improves SPF, transparency, and stability and "is compatible with almost all cosmetic ingredients" (FF 5). The Examiner looks to Pfluecker II because Pfluecker II teaches C_{12-15}-alkyl benzoate is "an oil that can be advantageously

selected for the oil phase for dispersion of UV protectant nanoparticles" (Ans. 3; *see* FF 8).

Thus, the Examiner has identified specific reasons in the prior art for the claimed combination and established that each of the components was a known option for sunscreen compositions (FF 1–8). The Examiner's obviousness conclusion is consistent with *Wrigley*, where the Federal Circuit found a "strong case of obviousness based on the prior art references of record. [The claim] recites a combination of elements that were all known in the prior art, and all that was required to obtain that combination was to substitute one well-known . . . agent for another." *Wm. Wrigley Jr. Co. v. Cadbury Adams USA LLC*, 683 F.3d 1356, 1364 (Fed. Cir. 2012). Similarly, all that is required to obtain the instantly claimed combination is to substitute New Materials titanium dioxide PARSOL TX agent for the titanium dioxide agent in Pfluecker I and to substitute one of the advantageous oils taught by Pfluecker II into the dispersion of Pfluecker I (FF 1–8). Appellants have provided no secondary considerations to rebut the Examiner's obviousness position.

Conclusion of Law

The evidence of record supports the Examiner's conclusion that Pfluecker I, New Materials, and Pfluecker II render claim 1 obvious.

SUMMARY

In summary, we affirm the rejection of claim 1 under 35 U.S.C. § 103(a) as obvious over Pfluecker I, New Materials, and Pfluecker II. Claims 2–11, 13, and 14 fall with claim 1.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED